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Positive emotions and the regulation of negative moods

By Jake Tremblay

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in

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.Table of Contents

Chapter I: Introduction.....1

Literature Review.....7

Emotion.....7

Affect, Mood, and Emotion.....9

Positive Emotion.....12

The Broaden and Build Theory of Positive Emotion.....13

Positive Emotion and Coping.....18

Positive Emotion and Resiliency.....20

Positive Emotion and Mood Regulation.....24

Rationale for the Present Study.....27

Hypotheses.....29

Chapter II: Method.....30

Participants.....30

Measures.....30

Positive and Negative Affect Schedule.....30

Mood Regulation Questionnaire.....31

Rosenberg Self-Esteem Scale.....32

Coping Responses Inventory.....33

Ego-Resiliency Scale.....34

Procedure.....35

Chapter III: Results.....36

Positive Emotion, Resiliency and Mood Control.....40

Positive Emotion and Broad-Minded Thinking 42
Positive Emotion, Resiliency, and Self-Esteem 44
Positive Emotion, Self-Esteem, and Mood Control Motivation 44
Positive Emotion and Mood Control Beliefs 45
Chapter IV: Discussion 46
Limitations and Directions for Future Research 54
References 56
Appendix A: Selected Items From the CRI 79
Appendix B: PANAS 80
Appendix C: SES & ER89 81
Appendix D: MRQ 82

List of Tables

Table 1	Differences Among the Levels of Affect Organization	p 10
Table 3	Cronbach's Alpha Coefficients for Measures and Subscales	p 37
Table 3.1	Measures of Central Tendency and Variance	p 38
Table 3.2	Correlations Between Variables and Demographic Categories	p 39
Table 3.3	Correlations Between Resiliency, Affect, Self-Esteem, and Mood Regulation	p 41
Table 3.4	Correlations Between Resiliency, Affect, Self-Esteem and Coping	p 43

List of Figures

Figure 1 The Broaden and Build Theory of Positive Emotion.....p 14

Figure 1.2 The Disruption Reintegration Resiliency Model.....p 22

Chapter I: Introduction

This thesis will examine the relationship between positive emotion and the factors associated with negative mood regulation in resilient individuals. Positive emotion is known to be an essential factor in the development of resiliency (Fredrickson, Tugade, Waugh, & Larkin, 2003) and in enabling the regulation of undesirable moods (Isen, 1999b, 2000, Tugade & Fredrickson, 2004). The latest research in positive psychology states that resilient people actively utilize positive emotions to change a negative mood (Tugade & Fredrickson, 2004). However, the associative factors between positive emotion and resilient people's mood control abilities are not clear (Isen, 2003; Tugade & Fredrickson, 2004). After reviewing the positive psychology literature on issues such as human health, positive emotion, and mood regulation, the current study investigates the role positive emotion has in resilient people's negative mood regulation.

The new field of positive psychology attempts to understand and treat the whole person by investigating the factors that enable individuals, communities, and societies to flourish, and foster fulfillment (Seligman & Csikszentimihalyi, 2000). One of the pioneers in the field, Martin Seligman, has applied positive psychology to alleviate suffering and help individuals and communities achieve a higher quality of life (Seligman, 2004). Regarding the individual, positive psychology includes the study of the capacity for love, compassion, resiliency, hope, creativity, and self-knowledge (Seligman, 2004). On a community or societal level, it explores such qualities as responsibility, leadership, and tolerance (Seligman, 2004). Positive psychology's focus on people's positive attributes is a relatively new approach to psychology and this

knowledge is expected to contribute to the optimization of health and well-being for individuals in our fast-paced and stress-ridden societies (Ryff & Singer, 1998).

Experiencing a sense of well-being and flow is a definition of quality of life which has been empirically studied and is widely held in the field of positive psychology (Nakamura & Csikszentmihalyi, 2002). Well-being is the sense obtained from experiencing satisfaction and happiness while reflecting on past events, or situations. Flow describes a feeling of joy and pleasure from being fully engaged in the present moment without consideration to the past or future. It is an optimal state of positive consciousness experienced cross-culturally, throughout diverse socioeconomic strata and ages, and by both genders (Csikszentmihalyi, 1988). The universality of the experience of flow has helped positive psychology to generalize the benefits of the positive aspects of human functioning in societies throughout the world, and is considered the key to enhancing quality of life (Csikszentmihalyi, 1997; 2000).

One of the largest factors impacting quality of life is health. Since the capacity to experience positive emotions is a fundamental element in the determination of well-being and human flourishing (Fredrickson, 2001), positive psychology research has begun to investigate the role of positive emotions in human health. Studies of cancer patients' experiences of positive feelings and the simultaneous spontaneous remission of their illnesses were recorded as early as the sixties (Boyd, 1966; Cunningham, 1984; Everson & Cole, 1966). However, at the time the explanations for these recoveries were reported as inexplicable. Now, some researchers are convinced that these health benefits are directly derived from experiencing and expressing positive emotional states (Catanzaro & Greenwood, 1994; Goldman et al., 1996; Salovey, Rothman, Detweiler, & Steward,

2000). The benefits derived from positive emotions such as joy, interest, contentment, love, pride, elevation, and gratitude, are lasting. They help people to initiate and solidify high-quality social connections with others; to desire self-improvement and a life of purpose; and to have a positive self-regard and concern for others (Fredrickson, 2000b; Haidt, 2000; Lyubomirsky, 2000; McCullough et. al, 2001). All of these benefits are necessary core features of human health and well-being (Ryff & Singer, 1998).

Allowing the experience of negative emotions is also fundamental in the determination of well-being. Ignoring such emotions and even suppressing negative thoughts are a detriment to the immune system, and are related to coronary heart disease (Pennebaker, 1992), and the progression of cancer (Goss, 1989; Jensen, 1987; Temoshok, 1987). In contrast, the processing and expression of one's thoughts, whether they are negative or even just neutral in nature (Petrie, Booth, & Pennebaker, 1998), produces significant increases in health, decreases health problems (Goldman, Kraemer, & Salovey, 1996; Greenberg & Stone, 1992; Greenberg, Wortman, & Stone 1996; Pennebaker, Barger, & Tiebout, 1989), decreases the need for health services (Pennebaker & Beall, 1986; Pennebaker, Kiecolt-Glaser, & Glaser, 1988), and enhances immune system activity (Esterling, Kiecolt-Glaser, Bodnar, & Glaser, 1994; Pennebaker et al., 1988; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995). These health benefits occur during the expressive recounting of the experience of negative life events even though negative emotions are evoked while doing so (Kelley, Lumley, & Leisen, 1997).

Building upon the health benefits achieved by expressing negative emotion with the simultaneous cultivation of positive emotion can produce improvements to quality of life. Ryff, et. al, (2001), cite how positive emotions accounted for more than 50% of the

difference of accumulative wear and tear on the body over the life span. Their study examined individuals who consistently experienced positive emotions with their parents as children and again as adults with their spouses. Consistent experiences of positive emotion can enhance psychosocial interactions to enhance our health and well-being (Deangelis, 2002).

Positive emotion is also influential in people's selection of coping methods (Costa & McCrae, 1992) and their ability to thrive (Diener & Seligman, 2002) in adverse conditions. People experiencing greater levels of positive emotion are more likely to select adaptive ways of handling stress (Folkman & Lazarus, 1985), while those experiencing less positive emotion are more likely to deal with stress in maladaptive ways (Rippetoe & Rogers, 1987). When adaptive coping methods successfully resolve stressors, positive emotion influences people to consistently select similar adaptive coping methods in the future (Isen, 2003). Recognizing the positive meaning associated with how one resolved a problem, along with positive emotion itself are key components in the development of resiliency, the set of characteristics which enable certain people and not others to grow from negative life circumstances (Fredrickson, 2000; Fredrickson et al., 2003).

When resilient people have problems that elicit excessive negative moods, they actively recruit positive emotions as a strategy for changing their negative emotionality (Tugade & Fredrickson, 2004). Managing negative emotions is essential to well-being (Ryff & Singer, 1998), and to maintaining a positive outlook (Isen et al., 1987). Changing an undesirable mood to a more desirable one is called mood regulation, and employing positive emotions to regulate negative moods is an effective technique. It is effective

because the physiological effects of positive and negative emotions are believed to be incompatible (Babanac, 1971; Solomon, 1980), and positive emotions can reverse the effects of negative moods on the mind and body (Fredrickson, et al., 2000). This technique works especially well for resilient individuals because they experience greater positive emotionality (Tugade & Fredrickson, 2004). Although employing positive emotions is an effective way to control negative moods for resilient individuals, Tugade and Fredrickson's article (2004) did not investigate what motivated resilient individuals to use positive emotions for negative mood control.

Even though positive emotions are intuitively and empirically linked with motivation (Bindra, 1970; Isen, 2000, 2003; Leeper 1970; Wiepkema, 1987; Young, 1961), their association with mood control motivation is not clear. Positive emotions motivate socialization, and the pursuit of desired goals (Isen 2000). They also influence cognition by motivating people to develop preferences for successful coping methods (Carver, Scheier, & Weintraub, 1989). Tugade and Fredrickson's (2004), findings illustrate that resilient people's preexisting higher levels of positive emotion may motivate the cultivation of subsequent positive emotion. However, their research does not specifically measure the association between positive emotion and mood control motivation.

In a recent study on the differences in mood control motivation associated with self-esteem, positive beliefs were found to be strongly correlated with being motivated to regulate and with achieving mood control (Heimpel, et al., 2002). Only individuals high in self-esteem held positive beliefs about their ability to change a negative mood, and subsequently were actually motivated to do so. As positive emotions are known to

contribute to differences in self-esteem levels (Spencer, Josephs, & Steele, 1993), perhaps they also play a role in motivating mood control.

Due to the high correlations between self-esteem and resiliency (Garmezy, 1991; Richardson, 2002; Werner & Smith, 1992), it is possible that resilient people hold very similar positive beliefs associated with mood control achievement and motivation. Therefore as Tugade and Fredrickson (2004) claimed, it is expected that positive emotion enables resilient people to achieve mood control, and is significantly related to their motivation to do so. The following literature review will appraise what is currently known about positive emotion and its associated factors, and then will introduce the present study in an attempt to extend the research in this area.

Literature Review

This literature review appraises the empirical evidence regarding positive emotion, resiliency, and emotion regulation. First, the general topic of emotion is evaluated, with a central emphasis on the Darwinian evolutionary theory of emotion. The organization of emotion is then described using the three categories of affect, followed by an examination of positive emotion, the primary focus of this topic. Finally, cognitive coping styles, a primary factor associated with positive emotion is examined before investigating how positive emotion interacts with resiliency, negative mood regulation, and with mood control beliefs.

Emotion

The study of emotion is considered to be confusing because serious theoretical debates exist about its fundamental questions (Lazarus, 1982; Ortony, Clore, & Collins, 1988; Ortony & Turner, 1990; Zajonc, 1980). The word emotion does not even exist in all languages (Russell, 1991). Emotions have been viewed as waste products of cognitive-behavioural overload, or as the meaningless residue resulting from being confused about how to respond to the environment (Hebb, 1949). They have been described as the remnants of hereditary responses to environmental conditions that no longer exist, or even as subjective expressions to an awareness of existence in the world (Frijda, 1994b). The most traditional and still current perspective on emotion is the evolutionary perspective, which views emotions as functional for the organism (Darwin, 1872).

The evolutionary perspective claims that the function which emotions serve is to ensure the survival of the organism, prompting it to seek out satisfaction and to avoid

confrontation (Frijda, 1986). Emotion begins with an appraisal of the relevance of events that relate to the individual's basic concerns, resulting in affective conditions and specific action tendencies that protect the being in some way (Arnold, 1960; Frijda, 1986; Lazarus, 1991a). For example, realizing that the consumption of a particular spice results in painful indigestion may cause mild physiological arousal to its exposure, and an automatic aversion to it, and even similar spices.

The appraisal of circumstances in the environment causes attention to be focused on the situation of concern (Greenberg, Rice, & Elliot, 1993), and then prepares physiological systems to respond with a narrowed choice of actions (Oatley & Jenkins, 1992). Researchers believe that this narrowing of behavioural options was adaptive for our survival because the choices made available worked best in life or death situations (Tooby & Cosmides, 1990).

The physiological preparations result in specific action tendencies that help people to cope with their environment (Frijda, 1986; Frijda, 1987; Frijda, Kuipers, & Schure, 1989; Lazarus, 1991b; Levenson, 1994; Tooby & Cosmides, 1990). Specific action tendencies are the behavioural urges that result from experiencing certain discrete emotions, such as the desire to flee when experiencing fear, or to attack when feeling angry (Frijda, Kuipers, & Schure, 1989).

While not all occurrences of emotions are necessarily adaptive (Frijda, 1994b), their influence on human functioning is categorized in three ways. Emotions focus people's attention to relevant information, they motivate people toward their desired goals, and they influence social behaviour (Greenberg, et al., 1993). These three categories are referred to as an emotional information processing system (Leventhal, 1979), and are

comprised of unique neurological circuits in the brain that control emotion (Panskepp, 1989). Instead of debating which predicts the other (Feldman, Barrett, & Russell, 1999; Watson & Tellegen, 1985), the information processing perspective views cognition and emotion as intertwined and inseparable (Piaget, 1981).

Affect, Mood, and Emotion

Emotion is further organized into three hierarchical levels; affect, mood, and emotion (see Table 1). Affect is considered to be a stable, enduring, predisposition ranging between pleasure and displeasure, also containing an element of arousal ranging from deactivation to high activation (Rosenberg, 1998; Russell, 2003; Russell, Feldman Barrett, 1999). Every functioning individual consistently experiences a state of affect along a positive and negative continuum, which usually corresponds with a level of stimulation in the body and mind. Affect is further subdivided into two categories, trait affect, and state affect (Russell, 2003).

Trait affect is defined as the predisposed emotional qualities that individuals experience regardless of the influence of specific events, or situations. It is generally considered to be "free-floating" and influences reflexes, perception, cognition, and behaviour, and therefore greatly constitutes our personality. Yet trait affect can also be influenced by a myriad of internal or external causes of which a person may not be aware (Russell, 2003). When trait affect is influenced, the result is an affective state which people are generally less aware of than their usual affective traits (Rosenberg, 1998). Affective states fall into two classifications: moods, and emotions. Moods are transient states that are not as durable as affective traits, yet may last for hours or several days (Clark, Watson, & Leeka, 1989; Frijda, 1994) and longer than situation-based

Table 1

Differences Among the Levels of Affect Organization[1]

Criterion and level of affect	Ordinal Status
Simple duration	
Affective traits	Longest
Moods	Intermediate
Emotions	Shortest
Pervasiveness in consciousness	
Affective traits	Most pervasive
Moods	Intermediate
Emotions	Least pervasive
Distributive breadth	
Affective traits	Broadest
Moods	Intermediate
Emotions	Narrowest

[1]From "Levels of Analysis and the Organization of Affect", by E. Rosenberg, 1998, *Review of General Psychology, 2(3)*, 247-270. Copyright 1998 by the Educational Publishing Foundation.

emotions (Davidson, 1994; Eckman, 1984; Lazarus, 1991). Although not as pervasive, and therefore less obvious to an individual's awareness than affective traits, moods are more noticeable than emotions (Davidson, Ekman, Frijda, Goldsmith, Kagan, Lazarus, Panksepp, Watson, & Clark, 1995). While moods themselves are often noticed by the individual due to the breadth of their influence on the body and their duration, the transitions between mood states can occur unnoticed. This is because they are less intensely experienced than emotions, and the factors influencing their development may be too subtle (Rosenberg, 1998). As a result, individuals may unsuccessfully attempt to understand the origin of a particular mood in order to resolve a negative feeling, and be left with an unresolved problem because they were not aware of the transition from one mood to the next, nor of the internal or external influences on their affect (Rosenberg, 1998).

Lowest in the hierarchical classification of affect, emotions are acute in duration, result in the narrow array of psychophysiological changes in response to specific environmental stimuli described above, and are discretely categorical, fitting into emotion families like fear, anger, and joy (Ekman, 1994; Rosenberg, 1998; Russell & Feldman Barrett, 1999). The emotion families are classified along a positive or negative valence, for example joy, anticipation, and contentment, or fear, disgust, and sadness, depending upon the relevance of the concern appraised (Frijda, 1994b), and associative priming (Lazarus, 1994). Associative priming refers to the concept that the type of thoughts along the positive or negative valence that one has, are primed by the person's mood valence. A good mood makes more positive thoughts available, and more positively influences cognitive appraisal. The opposite is also true for negative moods (Lazarus, 1994).

Opposing neurochemical differences between positive and negative emotions impact psychophysiological functioning on a daily basis (Ekman & Davidson, 1994). For example, positive emotions are associated with approach behaviour, described as the prompt to become involved in the environment, either in situations or with other people. If the experience of this involvement is pleasurable, positive emotions facilitate the desire to continue with the behaviour. Positive emotions are known to facilitate people's desire to explore their surroundings and to become engaged in activities. Negative emotions on the other hand such as fear and disgust, facilitate withdrawal behaviour, disengagement from people or activities that are undesirable. This evolutionary perspective of emotion describes the approach-withdrawal motivations as adaptive because they benefit both the individuals and the society (Watson et al., 1999).

Ultimately, positive and negative emotions are a source of human strength because they encourage people to do what needs to be done and make the best of their situations (Isen, 2003). Further fundamental differences exist between positive and negative emotions. However, this literature review will continue to examine positive emotion only due to its central relevance to this study.

Positive Emotion

The empirical evidence reviewed so far has demonstrated that positive emotion significantly influences human functioning. It influences our cognition by focusing our attention to situations of concern, it motivates our behaviour to pursue desired goals, and it helps us to adapt to the environment by influencing our social behaviour (Greenberg, et al., 1993). Consistent with this information-processing theory, positive emotions are also associated with increases in brain dopamine levels correlated with creative thinking

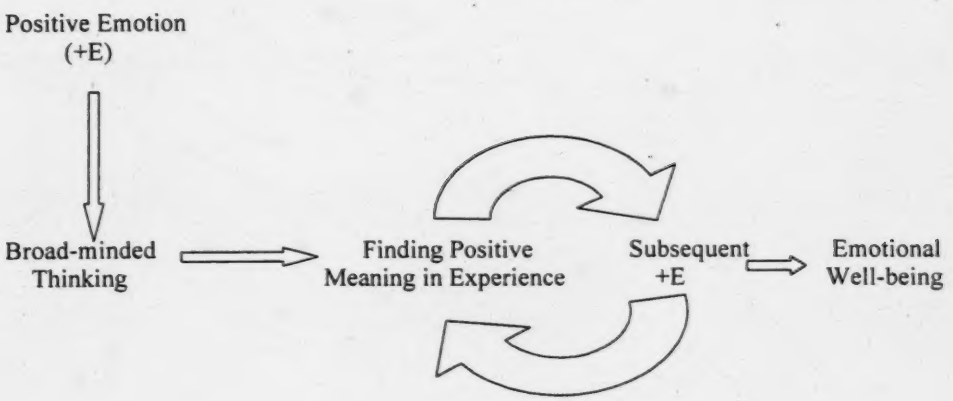
(Ashby, Isen, & Turken, 1999), broadened thought patterns (Isen, Daubman, & Nowicki, 1987), efficiency (Isen & Means, 1983; Isen et. al., 1991), a more flexible and receptive state of mind (Isen & Daubman, 1984). These qualities result in positive emotion creating an openness to information, and a desire for new experiences (Estrada, Isen, & Young, 1997). Together, these characteristics suggest that positive emotions are an essential element in helping individuals to thrive (Isen, Daubman, & Nowicki, 1987).

The Broaden and Build Theory of Positive Emotion. Barbara Fredrickson, a predominant researcher in positive psychology, has presented a new theoretical model of positive emotions (see Figure 1), which identify their role in helping people to prosper and thrive, entitled the Broaden and Build Theory of Positive Emotion (2002, 2001, 1998). Supporting previous research on positive emotion, the Broaden and Build Theory claims that positive emotions increase social supports and the development of psychological resources; that they undo the effects of negative emotions; and they trigger emotional well-being and build resiliency (Fredrickson, 2001, 2000, 1998; Fredrickson and Joiner, 2002; Fredrickson and Levenson, 1998, Fredrickson, Mancuso, Branigan, & Tugade, 2000; Fredrickson, Tugade, Waugh, & Larkin, 2003).

The Broaden and Build Theory posits that positive emotions influence broad-minded thinking, a cognitive-expanding which assists people to resolve problems and find positive meaning in negative life experiences by considering new alternatives to their dilemmas. Individuals in a positive, open state of mind show a preference for variety, and accept a broader array of behavioral options when considering a choice of action for

Figure Caption

Figure 1 The Broaden and Build Theory of Positive Emotions (Fredrickson, 1998).



problem resolution (Kahn & Isen, 1993). Being able to find positive meaning in stressful life events leads to the generation of subsequent positive emotions. If this spiral is experienced consistently, Fredrickson claims that positive emotions result in the long-term development of increased positive affect, and a stable sense of well-being (Fredrickson, 2001, 1998; Danner, Snowdon, & Friesen, 2001). Positive emotions also help individuals to find and add new solutions to their repertoires, solutions which are more durable than the situation-based positive emotions that led to their acquisition (Fredrickson, 2000). An increase in social supports, such as closer relationships with friends or new relationships with professional helpers acquired through the process of seeking out information from others results, as does an increase in psychological resources from gaining new strategies and ways of thinking about solving problems. The Broaden and Build Theory also reports that positive emotions reliably serve to counteract the harmful effects of negative emotions on the mind and body across ethnicities, which Fredrickson calls the undoing effect of positive emotions (Fredrickson, 2000; Fredrickson & Levenson, 1998; Fredrickson, Mancuso, Branigan, & Tugade, 2000).

The undoing effect of positive emotions is based on the principle that the physiological effects of both positive and negative emotions cannot coexist (Babanac, 1971; Baron, 1976; Nezue, Nezu, & Blissett, 1988; Solomon, 1980). Therefore, as positive emotions are experienced, especially contentment, amusement, and joy (Fredrickson, 2001; Fredrickson, Mancuso et al., 2000), all of the physiological systems such as the nervous and cardiovascular systems are returned from an aroused state to a normal activation state, then into the relaxed or pleasure state induced by the positive emotion (Fredrickson, 2000). The shorter the duration of a negative physiological arousal

state, the less wear and tear on the body (Ryff, et al., 2001). Also, the reduction of the negative physiological arousal state and transition into a positive emotional state prepares the individual for carrying out alternative positive courses of action which would not have been considered in the previous negative state. This preparation occurs more quickly than if positive emotions were not present and the body's systems were left to return to a normal activation state on their own. Speeded recovery from the harmful effects of negative emotions is just one of two protective attributes of positive emotions.

The second attribute occurring during the undoing effect of positive emotions is the reversal of thinking patterns induced by negative emotions. The effect of negative emotions on the brain is a narrowing of thinking, with fewer choices and options considered when determining a response or solution to a problem (Fredrickson, et al., 2000). During a high-activation negative emotion, which is a physiological arousal state induced by a negative emotion, response options are decreased in preparation for a few specific actions that are most likely to resolve the situation and allow the body to return to normal (Lazarus, 1991; Levenson, 1994). Due to the fact that the result of positive emotions on the brain broadens people's thinking and the response options that they consider when attempting to resolve a situation, and the fact that the physiological effects of both positive and negative emotions cannot coexist, positive emotions reverse the narrowed thinking patterns. This accelerates the physiological recovery of the body's cardiovascular and other systems (Fredrickson, 2001; Fredrickson, et al., 2000).

The Broaden and Build Theory also reports that broad-minded thinking enables an upward spiral of well-being resulting from continued positive emotions and individuals' abilities to find solutions to their problems. When people are faced with adversity and

they find some personal meaning in their experience regardless of the resolution, positive emotions are generated (Affleck & Tennen, 1996; Folkman & Moskowitz, 2000; Fredrickson, 2000). Reciprocally, the experience of positive emotion itself better enables individuals to find positive meaning in their experiences (Fredrickson, 2000). These interactions between broad-minded thinking initiated by experiences of positive emotion, finding meaning in experiences, and the subsequent generation of positive emotion, accumulate and continuously compound in an upward spiral of positive emotion to the extent that individuals experience a general sense of well-being (Fredrickson & Joiner, 2002). Over the long run, this upward spiral of positive emotion initiates a positive and durable change in the general level of the person's affect (Danner, Snowdon, & Friesen, 2001; Isen, 2003).

The adaptive functions of affect and emotion are crucial elements of positive human functioning in Fredrickson's Broaden and Build Theory. The desire to explore, approach, and engage in one's environment resulting from positive emotion relates to Fredrickson's description of seeking out social supports and building psychological resources and resiliency previously described. The narrowing effect of specific action tendencies geared for self-preservation resulting from negative emotions is exactly the opposite of what occurs during the broadening of cognition when positive emotions are experienced, and is also adaptive for helping individuals to thrive (Fredrickson, 2000). The following review of the research regarding the influence of positive emotion on how individuals cope with adversity demonstrates its adaptive function and also supports Fredrickson's Broaden and Build Theory.

Positive Emotion and Coping

Research on coping began when interest in the effects of stress began in the late 60's and early 70's. Stress was defined as consisting of three processes, primary appraisal: the perception of a threat to oneself; secondary appraisal: consideration of various responses to the threat; and coping: acting with a chosen response (Lazarus, 1966). These processes do not have to occur in succession, for instance having a particular coping strategy present itself to one's consciousness can initiate coping without the present existence of a threat in the immediate environment.

Initially, two general ways in which people cope with stress were identified (Folkman & Lazarus, 1985). Problem-focused coping concentrates on dealing with the stressor itself and finding ways to reduce the problem. Problem-focused coping can include coping styles such as active coping, planning, self-restraint, seeking resources, and suppressing competing activities that take away from attempts to manage the situation. Emotion-focused coping targets ameliorating the distressful emotions that are elicited by the stressor, which is emotional self-regulation. Examples of emotion-focused coping include positive reappraisal, seeking social support, acceptance, and denial. Regardless of which way people choose to cope, both forms of coping are elicited by stress or challenges. However, the selection of coping method is largely a function of whether or not the individual perceives something constructive can be done about the problem. If so, people often choose a problem-focused coping method, whereas if the stressful situation is thought to be unchangeable, then emotion-focused coping is usually selected (Carver, Scheier, & Weintraub, 1989).

Subsequently, research identified additional coping methods that people commonly use (Aldwin, & Revenson, 1987; Billings & Moos, 1981, 1984; Roth & Cohen, 1986; Scheier, Weintraub, & Carver, 1986). Less useful coping responses such as: focusing on and venting of emotions; behavioural disengagement, in which individuals reduce their effort to manage the stressor and even give up pursuing goals; and mental disengagement, or using activities to distract oneself from thinking about the problem which typically occurs if one cannot behaviourally disengage, were included. These maladaptive forms of coping with stress (McCrae & Costa, 1986; Rippetoe & Rogers, 1987), especially focusing on and venting negative emotions, impede judgment (Felton, Revenson, & Hinrichsen, 1984), can increase one's degree of distress, and distracts people from executing resolutions, and from moving past the problem (Scheier & Carver, 1977).

Differentiations have also been made between dispositional and situational forms of coping (Carver, Scheier, & Weintraub, 1989). Dispositional coping styles refer to the belief that there are a stable set of coping methods that each individual is predisposed to utilize when faced with stressful situations, and that each person will consistently utilize the same styles when faced with each new stressful encounter (Folkman & Lazarus, 1980; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). In contrast, situational coping refers to the belief that each person utilizes a coping method unique to each new situation. The stable coping styles described in the dispositional theory derive from consistent personality traits that each person uniquely possesses (McCrae, 1982). Optimism, pessimism (Scheier & Carver, 1987), self-esteem (Rosenberg, 1965, 1979), and hardiness or resiliency (Kobasa, 1979), are regarded as highly influential factors in the coping response that people employ (Costa & McCrae, 1980, 1984, 1992). While

debate remains as to which theory is correct (Folkman & Lazarus, 1980), it is more common to consider both dispositional and situational factors as influencing the ways in which an individual responds to stressful situations (Carver, Scheier, & Weintraub, 1989).

Fredrickson's Broaden and Build Theory of Positive Emotions accounts for both problem-focused and emotion-focused coping. Explained from an evolutionary perspective (Fredrickson & Joiner, 2002), the broadening effects that positive emotions have on cognition adaptively enables individuals to consider the problem and increases the alternatives available for problem resolution, which is a problem-focused strategy. Simultaneously, positive emotions reverse the harmful psychophysiological effects of negative emotions such as narrowed thinking, and emotional and physical arousal. If individuals recognized that an intense emotion was the problem itself, their success at emotion-focused coping would be increased by the undoing effect of positive emotions. Fredrickson explains that resilient individuals actively recruit positive emotions as a strategy to return themselves to a normal level of physiological activation (Tugade & Fredrickson, 2004). Therefore resilient individuals employ a problem-focused coping method because they enlist positive emotions to resolve their stressors. To better understand the associations between positive emotion and resilience, an examination of the resiliency literature follows.

Positive Emotion and Resiliency

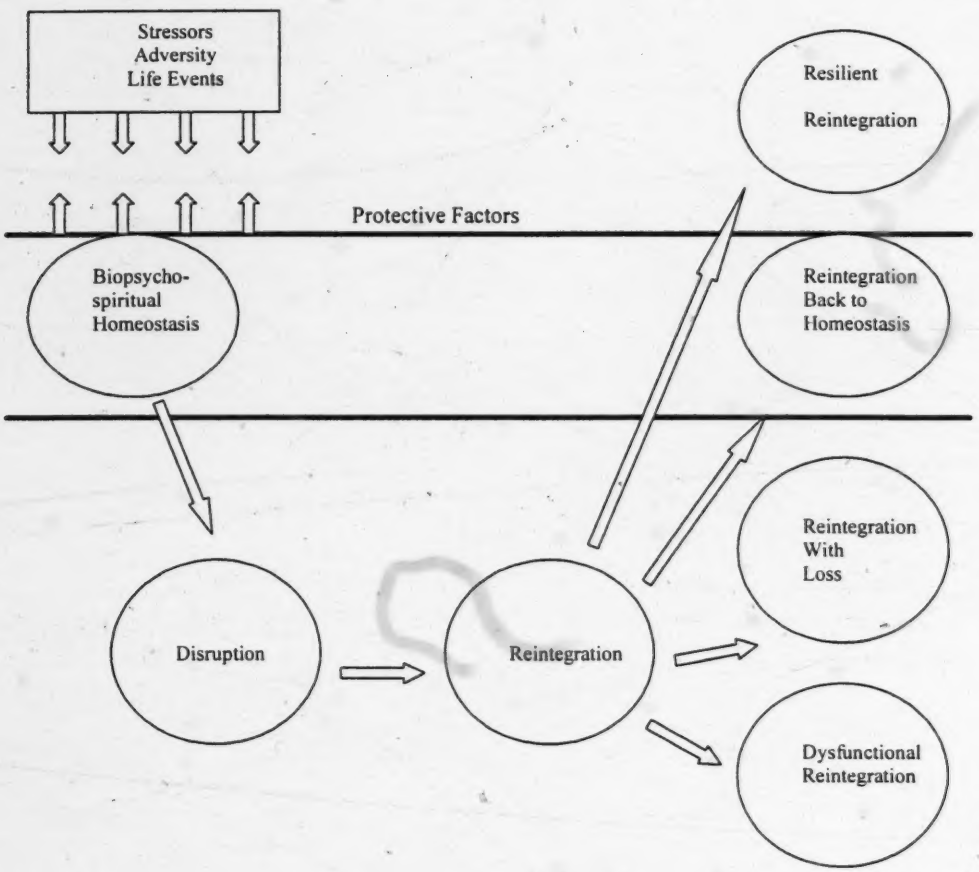
Resiliency concerns the characteristics and mechanisms that enable people to thrive during stressful events in their lives. Similar to how resilient metals can bend to great degrees without breaking, resiliency is the factor that enables individuals to bounce back

and grow from stressful experiences quickly and efficiently (Carver, 1998; Lazarus, 1993). Several studies have identified the many qualities that comprise resilience (Benson, 1997; Bernard, 1997; Garmezy, 1991; Garmezy, Masten, & Tellegen, 1984; Rutter, 1979, 1985; Seligman & Csikszentmihalyi, 2000), including: happiness (Buss, 2000), subjective well-being (Diener, 2000), optimism (Peterson, 2000), faith (Myers, 2000), self-determination (Ryan & Deci, 2000), gratitude (Emmons & Crumpler, 2000), forgiveness (McCullough, 2000), hope (Snyder, 2000), humility (Tangney, 2000), and creativity (Simonton, 2000), to name just a few. The classic resiliency study by Werner & Smith (1992), identified self-esteem, a positive outlook, and good problem-solving and critical thinking skills as significant resilient qualities. The development of these qualities is associated with positive emotion (Tellegen, 1985), having a supportive family environment, and an external social support system (Richardson, 2002). However research proposes a resiliency model that accounts for how individuals without these supportive associations still can possess high levels of resilience.

Richardson's (2002), explanation of Flach's disruption-reintegration model of resiliency (Flach, 1988, 1997), states that the acquisition of resilient qualities occurs through having one's world paradigm changed by new thoughts, feelings, or life events, that are perceived as having positive or negative outcomes (see Figure 1.2). These outcomes present the opportunity for growth and new understandings. When these new understandings are reintegrated into a modified worldview, individuals return to a

Figure Caption

Figure 1.2. The Disruption Reintegration Resiliency Model by Flach (1988, 1997) [1]



Note. [1]From "The Metatheory of Resilience and Resiliency", by G. Richardson, 2002, *Journal of Clinical Psychology, 58(3)*, 307-321. Copyright 2002 by Wiley Periodicals, Inc.

homeostatic level of functioning. Flach's resiliency model explains how positive emotions contribute to resiliency, specifically supporting Fredrickson's Broaden and Build Theory of Positive Emotions (1998).

Fredrickson reports that broad-minded thinking enables resilient individuals to find meaning in their negative experiences (Fredrickson, 2000). Finding meaning in negative experience both enables, and is necessary, for successfully reintegrating one's worldview, and returning to a positive and neutral level of activation. Fredrickson's theory extends resiliency theory by describing the upward spirals of positive emotion that generate subsequent positive emotions, leading to a long-term stable change in one's affect. After several such experiences, resilient individuals are able to bounce back more quickly by utilizing the psychological and social resources previously acquired. (Fredrickson, 2000; Fredrickson & Joiner, 2002). In the future, resiliency is cultivated as new positive emotions trigger individuals' abilities to positively cope with adversity (Fredrickson, Tugade, Waugh, & Larkin, 2003).

In the most recent literature regarding the Broaden and Build Theory, Tugade and Fredrickson (2004), have found that resilient individuals actually recruit positive emotions as a strategy to purposefully speed their emotional and physiological recovery from stressful experiences. Their study extended the research in two ways. First, it demonstrated the utility of positive emotions for effective mood regulation. Second, it established resiliency as being both a psychological mindset and as having a corresponding physiological component because it can be affected by positive emotions (Tugade & Fredrickson, 2004). The final aspect of this literature review examines what is known about the interaction of positive emotions and the regulation of negative moods.

Positive Emotion and Mood Regulation

Due to the overlap between mood regulation and coping concepts, especially the emotion-focused coping style discussed previously, it is important to make some distinctions. Typically, coping deals with the kind of stress response people employ to respond to stressful life events and daily hassles (Larsen 2000). The focus for problem resolution, even if the problem is one's own emotion, is usually external and aims at changing the environment in some way to alleviate the affective, physiological, and behavioural changes that have occurred as a result of the situation. In contrast, mood regulation emphasizes altering one's own affective state either directly or indirectly, without much concentration on external influences or factors (Larsen, 2000). There are several theories, models, and approaches about the processes involved in mood regulation. For example control theory models (Carver & Scheier, 1990; Larsen, 2000), involve feedback loops that inform individuals when their affect is other than their desired state for the purpose of enabling them to take actions to regulate how they are currently feeling. Some others include: Forgas's information-processing approach (2002), Tice and Wallace' self-regulation approach (2000), Vallacher and Wegner's action identification model (1985), and Eisenberg's developmental perspective (2000). However, overall, researchers ca not agree on what emotion regulation even is; as a result, there is no single dominant theory (Tice & Wallace, 2000). Yet, all researchers do agree that people's individual differences (ie. self-esteem, resiliency, preferred coping methods, and trait affect) are considered the most influential factors and they must be included in the conceptualization of any model of emotion regulation (Larsen, 2000).

The individual differences approach postulates that differences among individuals during the experience of moods and their beliefs about their moods moderate the regulation of both positive and negative states (Erber & Erber, 1994; Gohm, 2003). These individual differences, (affective, cognitive, and trait characteristics), have been previously discussed in this review. For example, levels of both positive and negative emotion vary greatly between individuals, with some people demonstrating considerably greater variability in their range of affective experience than others (Watson, 2000). Also, coping styles are associated with emotion, particularly negative styles such as avoidance with negative emotions and logical analysis with positive emotions (Eisenberg, et al., 1993). These particular individual differences also impact the way that people experience their emotions.

Three aspects of emotion experience have been identified that further exemplify the impact of individual differences on mood regulation (Gohm & Clore, 2002a, 2002b). Clarity, defined as the ability to identify and describe specific emotions (Salovey & Mayer, 1990), is crucial for being able to understand one's own emotional reactions to events. Knowing one is affected by something without understanding the emotion decreases the chance of successful emotion regulation, both in the current situation and in the future. Low emotional clarity is associated in the literature with negative characteristics, such as neuroticism (Salovey et al., 1995). Without emotional clarity, one cannot find any meaning in negative experiences, which maintains vulnerability for re-experiencing the negative effects of the same stressful event time and again (Gohm, 2003).

The second aspect of emotion experience is paying attention to emotions. It is the skill of being able to take notice of and value emotions. Without paying attention to emotions, one can not intelligently guide one's own functioning consistently (Gasper & Clore, 2000). Lack of attention to emotion is also associated with negative trait characteristics (Salovey et al., 1995).

The last individual difference in experiencing emotions is intensity. Emotional intensity is the typical magnitude of one's emotional experience, and it is associated with a person's degree of arousability (Larsen & Diener, 1987). Gohm (2003), believes that individuals who are emotionally intense are most aware of the influence of their own emotions on their affective states, subsequently enabling them to regulate their moods well.

In terms of this study's focus, the ability to use positive emotions purposefully to regulate moods has been empirically demonstrated as effective (Feldman, Barrett, & Gross, 2001; Feldman, Barrett, Gross, Christensen, & Benvenuto, 2001; Salovey, Hsee, & Mayer, 1993). The process of how positive emotions benefit cognitive, social, physiological, and psychological functioning has been described above through the Broaden and Build Theory (Fredrickson, 1998, 2001). Salovey & Mayer's (1990) theory of emotion experience, regarding the inability to find meaning in negative experience from a lack of emotional clarity, accounts for some of the individual variations in people's abilities to benefit from stressful experiences. Emotion experience theory (Salovey & Mayer, 1990), and the Broaden and Build Theory (Fredrickson, 1998, 2001), together explain how positive emotions fuel resiliency in those that are able to benefit

from using adaptive coping strategies. However, more research is required to demonstrate the relationships between positive emotion, resiliency and mood regulation.

Rationale for the Present Study

Positive emotion enables the achievement of mood regulation (Isen, 2000), fuels resiliency (Tugade & Fredrickson, 2004), and helps people to find meaning in their negative experiences (Fredrickson, 1998). Support for these claims come from empirical research that has demonstrated positive emotions foster helpfulness, kindness to oneself, problem-solving, approach behviour, perspective-taking, motivation towards goals, and creativity (Estrada, Isen, & Young, 1994; Greene & Noice, 1988; Hirt, Melton, McDonald, & Harackiewics, 1996; Isen, 1999b, 2000; Isen, Daubman, & Nowicki, 1987). This study intends to corroborate the finding that positive emotion influences mood regulation in resilient people. This claim has been established by measuring the reduction of the physiological effects of negative moods, and the utilization of a broad-minded coping style, which enabled people to find meaning in their experience (Tugade & Fredrickson, 2004). The finding would be further validated by direct self-report evidence showing that resilient people perceive themselves as motivated to cultivate positive emotions to regulate negative moods.

In a study examining mood control differences associated with self-esteem, researchers used a measure entitled the Mood Regulation Questionnaire (MRQ), to tap the self-perception of mood control. The results reported that failing to regulate negative moods was associated with four beliefs that people held (Heimpel, et al., 2002). The beliefs were: (typicality), that if the negative mood they were experiencing was typical for them they wouldn't regulate it; (self-efficacy), that if they believed their attempts to

change the negative mood would be ineffective then they wouldn't try to change it; (acceptability), that if being in a negative mood was acceptable to them, they would continue to feel negative; and (energy depletion), if they believed it would require more energy than what they possessed to change the mood, they would remain in it. All four of these beliefs were inversely associated to being motivated to regulate a negative mood, and with self-esteem. The prediction is that the four beliefs would also be inversely associated with positive affect.

Tugade and Fredrickson's research (2004), does not address these cognitive factors associated with mood control. However, they did consider the beliefs people held regarding their evaluation of stressful situations. Their study showed that resilient people generally appraised stressful situations to be less threatening, and therefore their minds and bodies returned to a baseline level of arousal more quickly after the stressful event is over. The MRQ would thus provide an opportunity to determine the relationship between beliefs associated with mood control and positive emotion in resilient people, thereby extending the literature on positive emotion.

Overall then, the present study had four purposes. First, it was designed to corroborate Tugade & Fredrickson's (2004), claims that resilient individuals use positive emotions to regulate negative moods. Second, it was meant to demonstrate the integrity of Fredrickson's Broaden and Build Theory of Positive Emotions by showing significant correlations between positive emotion and broad-minded thinking. Third, this study sought to clarify current research by determining whether or not positive emotion was a factor motivating resilient people to control a negative mood. This assumption was based on the literature predicting significant relationships between resiliency, positive emotion,

and self-esteem, (Richardson, 2002; Werner & Smith, 1992), and that higher self-esteem motivated mood control (Heimpel, et al., 2002). Therefore, this study's third purpose required demonstrable relationships between positive emotion, resiliency, and self-esteem; and between self-esteem and mood control motivation. Finally as an extension of the literature, it was proposed that in resilient people, positive emotion is significantly related to two beliefs associated with mood control failure. Negative correlations between positive emotion, self-efficacy beliefs, and energy depletion beliefs were necessary to substantiate this claim. Self-efficacy and energy depletion beliefs were expected to be associated with positive emotion based on Heimpel, et al.'s, study (2002), and the emotional priming literature (Lazarus, 1994).

Hypotheses

Hypothesis I: That positive emotion and resiliency are positively correlated with each other and negatively correlated with the failure to regulate negative moods.

Hypothesis II: That positive emotion is positively correlated with broad-minded thinking.

Hypothesis III: That positive emotion and resiliency are both positively correlated with self-esteem.

Hypothesis IV: That self-esteem is positively correlated with mood control motivation.

Hypothesis V: That positive emotion is positively correlated with mood control motivation.

Hypothesis VI: That positive emotion is negatively correlated with self-efficacy and energy depletion beliefs associated with the failure to regulate negative moods.

Method

Participants

60 adults (17 men and 43 women), ranging between 18 and 80 years of age, volunteered to participate in this study. Participants resided in Edmonton, Calgary, and Kitchener-Waterloo urban areas, and were heterogeneous with respect to education level (5% less than highschool, 23.3% highschool, 26.7% college, 30% undergraduate, and 15% graduate), and marital status (50% single, 40% married, 10% divorced). Ethnic background included Aboriginal-Canadian (5%), French-Canadian (10%), Asian-Canadian (1.7%), European-Canadian (10%), with the majority of the sample being Caucasian (73.3%). 59.9% of the participants were between 18-40 years of age, 30.1% of the individuals were between 41-60, and 10.2% were between 61-80 years of age.

Measures

Positive and Negative Affect Schedule. Positive and negative mood were assessed with the Positive and Negative Affect Schedule (PANAS), by Watson, Clark, and Tellegen, (1988). This measure consists of 10 positive affect items (active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong), and 10 negative affect items (afraid, ashamed, distressed, guilty, hostile, irritable, jittery, nervous, scared, and upset), on which participants rated themselves using a five-point Likert Scale to indicate the frequency with which they experience these various moods in general (see Appendix B). The PANAS has previously demonstrated high internal consistency ratings ranging from 0.84 to 0.90 (alpha coefficients), and test-retest reliability 0.79 to 0.81 (Watson et. al, 1988). In this sample, alpha coefficients were slightly improved at 0.89 for Positive Affect, 0.91 for Negative Affect, and 0.86 for the

total PANAS scale (see Table 2). Validity measures for this scale are also very high with convergent correlations ranging from $r = 0.89$ to $r = 0.95$, and discriminent correlations ranging from $r = -0.02$ to $r = -0.18$ with their regression-based factor scores. The PANAS also correlates highly with other measures of distress and psychopathology, such as the Beck Depression Inventory (Beck, et. al, 1961), the State-Trait Anxiety Inventory State Anxiety Scale (Spielberger, et. al, 1970), and its 10 negative affect items are interchangeable with the lengthier 90-item Hopkins Symptom Checklist developed by Derogatis et. al, in 1974 (Watson et. al, 1988). When used to measure positive emotions by Barbara Fredrickson in her Broaden and Build Theory (Fredrickson, 1998), the PANAS demonstrated good correlations ($r = 0.88$, and $r = 0.90$), and construct validity. It was also found to be appropriate for both students and non-students, in both normal and clinical adult samples (Watson et. al, 1988).

Mood Regulation Questionnaire. Achieving negative mood regulation was measured using the Mood Regulation Questionnaire (MRQ), developed by Heimpel et. al, (2002) (see Appendix D). The MRQ consists of 13 items that assess four beliefs that are associated with failure to regulate negative moods. These beliefs are: typicality beliefs which tap the degree to which participants believe the negative mood was typical of themselves; acceptance beliefs which measure the degree to which the person has come to accept the negative mood; self-efficacy beliefs which appraise whether participants feel capable of repairing the negative mood; and an energy depletion factor evaluating the degree to which participants believe changing the negative mood would require more energy than they possess. Nine additional items measuring motivation to control negative moods were also included in this scale, and were inversely correlated with all four

beliefs. Participants were asked to think about a time when they were experiencing a negative mood and to then proceed with the questionnaire that asks them to endorse five-point Likert Scale ratings for each item. For example, participants select a point on the scale ranging from Strongly Disagree to Strongly Agree in response to statements such as: "I couldn't change this mood even if I tried, I'm just going to continue to feel this way until the mood dissipates on its own", and, "I want to do something to change my mood, but I just can't muster up the energy to try". Strong agreement with these items results in a high failure to regulate a negative mood, and as having a low mood repair motivation.

As a criterion-related validity measure, Heimpel et. al, (2002), reported that all of the measure's subscales significantly correlate with self-esteem ranging from $r = -0.54$ to $r = 0.25$ at a 0.001 level. In Heimpel, et al.'s original study (2002), Cronbach's alpha ratings for the measure's subscales range from 0.49 (Acceptance Beliefs), to 0.87 (Typicality Beliefs). Using this study's sample, alphas ranged from 0.32 (Acceptance Beliefs), to 0.79 (Typicality Beliefs) with 0.58 for the composite scale indicating that although the reliability trends for the subdomains are similar, the alpha's for this sample are lower than expected. Also in the present study, one of the sub-domains (acceptance beliefs), did not correlate significantly with the construct of self-esteem ($r = -0.17$).

Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale (SES), (Rosenberg, 1965), is a 10-item measure of self-esteem that was used to evaluate global self-esteem in this study (see Appendix C). This scale remains the standard against which new self-esteem measures are evaluated, however, it is susceptible to socially-desirable responses (Watson, et. al, 2002). Participants respond to items such as: "I feel that I am a person of

worth, at least equal to others", and, "I feel I do not have much to be proud of", by endorsing four-point Likert ratings ranging from Strongly Disagree to Strongly Agree.

Typical internal consistency ratings vary from 0.77 to 0.88 (Dobson et al., 1979; Fleming and Courtney, 1984), along with a test-retest reliability of 0.85 after a two week delay (Silber and Tippett, 1965). The alpha coefficient rating for this sample is good (0.86). Convergent validity analyses reveal that the SES is associated with many self-esteem related constructs (anxiety r = -0.64, depression r = -0.54, confidence r = 0.65), and other measures of self-esteem such as the Lerner Self-Esteem Scale (r = 0.72), and the Coopersmith Self-esteem Inventory (r = 0.55), (Fleming & Courtney, 1984, and Demo 1985). Research also demonstrates correlations between the Rosenberg SES and measures of personality such as extraversion, neuroticism, openness, and both positive and negative affect (Furr & Funder, 1998, and Watson et. al, 2002).

Coping Responses Inventory. The Coping Responses Inventory (CRI), by Moos (1988b, 1993), was used to tap this construct. The questionnaire contains 48 items, and eight subscales representing the following coping styles: Logical Analysis, Positive Reappraisal, Seeking Guidance and Support, Problem Solving, Cognitive Avoidance, Acceptance or Resignation, Seeking Alternative Rewards, and Emotional Discharge. Respondents endorse a four-point Likert Scale ranging from "Not at all", to "Fairly Often", for the eight subscales that are each represented by six items. Test-retest correlations of all the subscales range from r = 0.45 to r = 0.43 after 12 months, and internal consistency subscale alpha ratings range from 0.58 for Emotional Discharge, to 0.74 for Positive Reappraisal. For the purposes of this study, the items from the Logical Analysis subscale are believed to best represent broad-minded thinking, as they provide

the greatest face validity, and have previously demonstrated decent test-retest correlations ($r = 0.76$, and $r = 0.79$), when utilized for this exact purpose (Fredrickson, 2002). In their most recent study, Tugade and Fredrickson (2004), selected three items from the Coping Responses Inventory (Moos, 1988b), combined with two of their own to develop a scale representing broad-minded thinking. This study uses two of the items Fredrickson selected from Moos's 1988 version of the CRI, and two additional items from the 1993 version (see Appendix A for these four sample items), to represent broad minded thinking in this study. One of these four items directly represents the construct of finding positive meaning in a stressful experience, and when combined with the other three items equals Tugade's and Fredrickson's (2004), representation of broad minded thinking (α 0.81), with an alpha coefficient in this sample of 0.81.

Ego-Resiliency Scale. Developed by Block and Kremen (1996), the Ego-Resiliency Scale (ER89), consists of 14 items to which participants respond using a five-point Likert Scale ranging from Strongly Disagree to Strongly Agree. For example, "I am generous with my friends, I quickly get over and recover from being startled, and I would be willing to describe myself as a pretty strong personality", are three sample items from the scale. Due to the potential for test-taker bias on this scale, the authors recommend that the items are intermixed with other inventory items being administered at the same time (Block & Kremen, 1996) (see Appendix C). In this study, the items from the ER89, were intermixed with the items from the SES comprising one 24-item scale which was administered with the other four measures in this study. For this scale and the purposes of this study, ego-resiliency is defined as the structure that governs personality and enables psychological adaptation to negative experiences. The reliability coefficient for this scale

in Block and Kremen's original study (1996), is high at 0.76, which is similar to the alpha obtained using this sample, at 0.74. Test-retest reliability after five years is cited as highly significant at 0.67 for females and 0.51 for males aged 18-23, once corrected for attenuation. Test-retest reliabilities are expected to be higher with older adults who have gone through the psycho-developmentally important early adult years (Block & Kremen, 1996).

Procedure

A package containing six measures and a clear explanation of the research was distributed to adults at the University of Alberta through on-campus advertisements, and at designated locations throughout campus for anonymous pick-up and completion. Packages were also distributed to all mailboxes at multi-family residences and employment settings in three Canadian urban centres (Edmonton, Calgary, and Kitchener). Packages took approximately 25-35 minutes to complete, and were completed and returned anonymously to the researcher's University of Alberta campus mailbox. Participants were made aware that completing and returning the package constituted their consent to participate.

The measures contained in the package included: the Positive and Negative Affect Scales (PANAS), by Watson, Clark, and Tellegen, 1988; the Roseberg Self-esteem Scale by Rosenberg, 1965; the Ego-Resiliency Scale by Block and Kremen, 1996; the Neo Five Factor Inventory by Costa, McCrae et. al, 2002; the Coping Responses Inventory (CRI), by Moos, 1988 and 1997; and the Mood Repair Questionnaire (MRQ), by Heimpel et. al, 2002. Data from the Neo Five Factor Inventory was not required for this study, and therefore has not been included.

Results

The data were initially reviewed prior to the calculation of any statistics to ensure that the basic assumptions for calculating correlation coefficients were met. In addition to meeting assumptions for both discreet and continuous scales, and equivalent reliability, the data were found to be normally distributed and linear. Alpha coefficients measuring the internal reliability of each scale were computed and are listed in Table 3. Descriptive statistics for this sample including means, standard deviations, and ranges for all variables can be found in Table 3.1. Unexpectedly, the mean level of positive affect (M = 36.02), in this sample was less than the mean level of negative affect (M = 39.13). The literature states that most normal populations generally report higher levels of positive affect than negative affect (Watson, Clark, & Tellegen, 1988). It is possible that correlations involving positive affect were slightly decreased as a result of this discrepancy from the norm.

Table 3.2 presents Spearman correlations (*rho*), between participant demographics and all of the study's measures. Coping styles was the variable showing the most association with elements of the demographic profiles. A gender difference was evident in the emotional discharge coping style, with female responses showing a significant association with this form of coping (*rho* = 0.41). The broad-minded coping style described in the Broaden and Build Theory correlated weakly with education (*rho* = 0.31), and marital status (*rho* = 0.31). The indication is that as educational levels increased, the use of Fredrickson's broad-minded thinking paradigm to resolve conflict also increased. The paradigm's correlation with marital status positively increased with the categories of single, married, and divorced participants.

Table 3

Cronbach's Alpha Coefficients for Measures and Subscales

Scale/Subscale	Cronbach's Alpha	Number of Items
Positive and Negative Affect Scale Total (PANAS)	0.859	20
Positive Affect (PANAS)	0.889	10
Negative Affect (PANAS)	0.914	10
Rosenberg Self-Esteem Scale (SES)	0.862	10
Ego-Resiliency Scale (ER89)	0.744	14
Coping Responses Inventory (CRI)		
Logical Analysis Subscale	0.686	6
Fredrickson's Broad-Minded Thinking Items	0.807	4
Positive Reappraisal Subscale	0.735	6
Seeking Guidance and Support Subscale	0.541	6
Problem Solving Subscale	0.628	6
Cognitive Avoidance Subscale	0.720	6
Acceptance or Resignation Subscale	0.540	6
Seeking Alternative Rewards	0.655	6
Emotional Discharge	0.348	6
Mood Regulation Questionnaire Total (MRQ)	0.584	13
Mood Repair Motivation Factor	0.352	3
Acceptance Beliefs Factor	0.324	2
Typicality Beliefs Factor	0.786	2
Self-Efficacy Beliefs Factor	0.756	5

N = 60

Table 3.1

*Measures of Central Tendency and Variance for Scales and Subscales**

Scale/subscale	Mean	S. D.	Range
Ego-Resiliency (ER89)	51.75	5.64	30
Self-Esteem Scale (SES)	38.92	5.78	27
Total Affect (PANAS)	75.15	10.40	43
Negative Affect (PANAS)	39.13	8.27	40
Positive Affect (PANAS)	36.02	6.14	30
Mood Regulation Questionnaire(MRQ)	29.65	6.96	22
Mood Repair Motivation Factor	7.08	1.79	7
Typicality Beliefs Factor	3.97	1.77	8
Acceptance Beliefs Factor	3.60	1.53	6
Self-Efficacy Factor	12.27	3.61	13
Energy Depletion Factor	2.73	1.07	4
Coping Responses Inventory (CRI)			
Logical Analysis	17.27	3.92	15
Broad Minded Thinking	10.52	3.54	13
Positive Reappraisal	16.70	4.15	16
Seeking Guidance and Support	15.45	3.53	14
Problem Solving	17.33	3.72	15
Cognitive Avoidance	14.30	3.88	17
Acceptance or Resignation	12.92	3.54	16
Seeking Alternative Rewards	12.38	3.87	14
Emotional Discharge Subscale	11.95	2.90	12

*N = 60 participants in the sample.

Table 3.2
Correlations Between Variables and Demographic Categories

	Ethnicity	Education	Marital Status	Gender	Age
ER89	-.01	.35**	.16	.07	-.09
SES	-.08	.03	-.00	.06	-.05
PA-PANAS	-.07	.25	.08	.02	-.04
NA-PANAS	-.08	-.08	.10	.21	.06
PANAS	-.07	.08	.08	.20	-.04
MRQ-TOTAL	.13	-.14	-.09	-.07	-.10
MRQ Mrm	-.10	.12	-.05	.09	.01
MRQ Typ	.19	-.05	-.05	-.00	-.09
MRQ A	.21	.04	.03	-.00	-.08
MRQ SE	.05	-.21	-.17	-.13	-.12
MRQ E	-.03	-.28*	-.06	.18	-.04
CRI LA	.03	.36**	.15	.21	.06
CRI BMT	.09	.31*	.31*	.24	.13
CRI PA	.09	.27*	.20	.24	.13
CRI SG	.17	.27*	.17	.07	-.01
CRI PS	.21	.31**	.22	.17	.21
CRI CA	.34**	-.16	.05	-.06	-.12
CRI AR	.15	-.13	-.12	-.05	-.18
CRI SA	-.05	.22	.21	.08	.23
CRI ED	.13	.10	.13	.41**	-.01

Note. ER89 = ego-resiliency; SES = self-esteem; PANAS = positive and negative affect composite; PA-PANAS = positive affect; NA-PANAS = negative affect; MRQ Total = failure to regulate negative mood; MRQ Mrm = mood regulation motivation; MRQ Typ = typicality belief of negative mood; MRQ A = acceptance belief of negative mood; MRQ SE = ineffectiveness belief at changing mood; MRQ-E = belief of energy depleted by negative mood; CRI LA = logical analysis coping; CRI BMT = broad-minded thinking coping style; CRI PA = positive reappraisal coping; CRI SG = seeking guidance and support coping; CRI PS = problem-solving coping; CRI CA = cognitive avoidance coping; CRI AR = acceptance or resignation coping; CRI SR = seeking alternative rewards coping; CRI ED = emotional discharge coping.
N=60 participants in the sample. *p< .05. **p< .01.

The problem-solving style of coping was found to be significantly related to higher education (*rho* = 0.31). As education increased, so did the participant's use of a problem-solving coping approach. The final notable demographic difference in this data was a significant positive correlation between education and resiliency (*rho* = 0.36), indicating that increased levels of education were associated with higher levels of resiliency.

Positive Emotion, Resiliency and Mood Control

Three different measures were used to test the first hypothesis that positive emotions and resiliency would be positively correlated with each other and negatively correlated with failure to regulate negative moods. The PANAS (Watson, et al., 1988) was used to evaluate the participant's levels of positive emotion; the ER89 (Block & Kremen, 1996), was used to appraise trait resiliency levels in this sample; and the MRQ (Heimpel, et al., 2002) tapped the failure to regulate negative moods for these participants. As seen in Table 3.3, Pearson Product Moment correlations demonstrated significant correlations between resiliency and positive affect ($r = 0.65$ at a 0.00 significance level), resiliency and mood control failure ($r = -.49$ at a 0.00 significance level), and good correlations between positive affect and mood control failure ($r = -.34$ at a 0.01 significance level).

These results showed that higher resiliency levels were associated with higher levels of positive affect and also with less mood control failure. Stated differently, greater resiliency is associated with better self-reports of negative mood regulation. Higher levels of positive affect were also associated with better self-reports of negative mood regulation. A partial correlation was conducted between resiliency and mood control while controlling for the effects of positive emotion. The purpose of this statistic was to

Table 3.3

Correlations Between Resiliency, Affect, Self-Esteem, and Mood Regulation

		1	2	3	4	5	6	7	8	9	10	11
1.	ER89	1	.65**	.13	.49**	-.49**	.17	-.23	-.20	-.53**	-.42**	.61**
2.	PA-PANAS	-	1	.02	.61**	-.34**	.16	-.12	-.18	-.32*	-.40**	.66**
3.	NA-PANAS	-	-	1	.81**	-.17	.15	-.16	.21	-.25	-.06	.23
4.	PANAS-TTL	-	-	-	1	-.34**	.22	-.20	.06	-.39**	-.28*	.57**
5.	MRQ-TTL	-	-	-	-	1	-.64**	.66**	.45**	.91**	.65**	-.44**
6.	MRQ-Mrm	-	-	-	-	-	1	-.22	-.18	-.48**	-.27*	.26*
7.	MRQ-Typ	-	-	-	-	-	-	1	.29*	.48**	.26*	-.35**
8.	MRQ-A	-	-	-	-	-	-	-	1	.18	.09	-.17
9.	MRQ-SE	-	-	-	-	-	-	-	-	1	.66**	-.39**
10.	MRQ-E	-	-	-	-	-	-	-	-	-	1	-.32*
11.	SES	-	-	-	-	-	-	-	-	-	-	1

Note. ER89 = ego-resiliency; SES = self-esteem; PANAS-TTL = positive and negative affect composite; PA-PANAS = positive affect; NA-PANAS = negative affect; MRQ TTL = failure to regulate negative mood; MRQ Mrm = mood regulation motivation; MRQ Typ = typicality belief of negative mood; MRQ A = acceptance belief of negative mood; MRQ SE = ineffectiveness belief at changing mood; MRQ-E = belief of energy depleted by negative mood; N=60 participants in the sample. *p< .05. **p< .01.

explore the degree of positive emotion's influence on mood control to determine whether or not it was a mediating factor in resilient people's ability to regulate negative mood. After positive emotion was controlled, a significant inverse correlation still remained between resiliency and mood control failure (r = -0.39). The decrease in the association of resilience and mood regulation from r = -.49 to r = -.39 when controlling for positive emotion suggests that positive emotion partly mediated their relationship. Nevertheless, the decrease is small, so positive emotion is not a principal mediating factor. However, the correlations between these three factors support the first hypothesis, corroborating Tugade & Fredrickson's (2004) claim that resilient individuals effectively utilize positive emotions to regulate negative moods.

Positive Emotion and Broad-Minded Thinking

The second hypothesis stated that positive emotions were correlated with the broad-minded thinking coping style described in Fredrickson's (1998) Broaden and Build Theory of Positive Emotions. The domain of broad-minded thinking was measured by selected items from Moos's Coping Responses Inventory (1988, 1993). Items were selected if they possessed the same alpha rating as Fredrickson's measure (Tugade & Fredrickson, 2004). According to Fredrickson, this thinking pattern is responsible for enabling people to find meaning in stressful experiences, thereby continuing an upward spiral of positive emotion and contributing to the development of resiliency. No significant correlation was found between positive emotion and broad-minded thinking in this sample. In fact, as Table 3.4 illustrates, positive emotion did not correlate significantly with any form of coping. As a result, the second hypothesis, and Fredrickson's model of positive emotions,

Table 3.4

Correlations Between Resiliency, Affect, Self-Esteem and Coping Styles

		6	7	8	9	10	11	12	13	14
1.	ER89	.31*	.37**	.33*	.30*	.24	-.04	-.16	.20	-.01
2.	PA-PANAS	.12	.09	-.01	.18	.01	-.17	-.18	-.01	-.11
3.	NA-PANAS	.12	.17	.14	-.03	-.01	.06	.01	-.11	.02
4.	PANAS-TTL	.17	.18	.11	.08	-.00	-.05	-.10	-.08	.10
5.	SES	.09	.07	.01	.06	.02	-.12	-.16	-.06	-.20
6.	CRI-LA	1	.70**	.67**	.42**	.63**	.20	-.05	.34**	.43**
7.	CRI-BMT	-	1	.92**	.42**	.56**	.17	-.01	.49**	.37**
8.	CRI-PA	-	-	1	.41**	.57**	.21	.06	.50**	.36**
9.	CRI-SG	-	-	-	1	.57**	.01	-.05	.19	.30*
10.	CRI-PS	-	-	-	-	1	.23	-.05	.35**	.39**
11.	CRI-CA	-	-	-	-	-	1	.45**	.21	.33**
12.	CRI-AR	-	-	-	-	-	-	1	-.08	.24
13.	CRI-SR	-	-	-	-	-	-	-	1	.30*
14.	CRI-ED	-	-	-	-	-	-	-	-	1

Note. ER89 = ego-resiliency; SES = self-esteem; PANAS-TTL = positive and negative affect composite; PA-PANAS = positive affect; NA-PANAS = negative affect; CRI LA = logical analysis coping; CRI BMT = broad-minded thinking coping style; CRI PA = positive reappraisal coping; CRI SG = seeking guidance and support coping; CRI PS = problem-solving coping; CRI CA = cognitive avoidance coping; CRI AR = acceptance or resignation coping; CRI SR = seeking alternative rewards coping; CRI ED = emotional discharge coping.
N=60 participants in the sample.
*$p < .05$. **$p < .01$.

were not corroborated using this sample. However, resiliency represented significant correlations with four coping styles, the greatest being broad-minded thinking (r = 0.37).

Positive Emotion, Resiliency, and Self-Esteem

The third hypothesis was based on previous literature (Garmezy, 1991; Heimpel, et al., 2002), and claimed that the three constructs of positive emotion, resiliency, and self-esteem would significantly and positively correlate with each other. Rosenberg's Self-Esteem Scale (1965), was used to measure self-esteem in this study, while the PANAS and ER89 scales tapped positive emotion and resiliency. The significant positive correlation between positive emotion and resiliency was already communicated in the first hypothesis. As seen in Table 3.3, self-esteem was found to correlate strongly with both positive affect ($r = 0.66$), and resiliency ($r = 0.61$), at a 0.01 level of significance. These findings demonstrate that the relationships described in the literature regarding these three variables were further documented in this sample.

Positive Emotion, Self-Esteem, and Mood Control Motivation

Hypothesis four claimed that self-esteem would be positively correlated with motivation to regulate negative moods based on Heimpel, et al.'s study in 2002. Correlational analysis of these two variables in this sample support Heimpel's claim as demonstrated by the positive correlation of 0.26 listed in Table 3.3. This statistic showed that higher levels of self-esteem were associated with higher levels of being motivated to control a negative mood, supporting hypothesis four.

The fifth hypothesis that positive emotion would be positively correlated with mood control motivation was based on inferences developed from hypotheses three and four. It was predicted that if positive emotion and resiliency correlated with self-esteem

(hypothesis three), and self-esteem was positively correlated with mood control motivation (hypothesis four), then positive emotion would also be correlated with mood control motivation in resilient people. Results in Table 3.3 show that this fifth hypothesis was unsupported by the data as positive emotion did not significantly relate to mood control motivation. This is a puzzling finding because of the positive relationships between positive emotion, resiliency, and self-esteem and self-esteem's relation to mood control motivation. It is also very odd that positive emotion is positively correlated with mood regulation, yet not with being motivated to regulate negative moods.

Positive Emotion and Mood Control Beliefs

Hypothesis six contended that positive emotion would be negatively correlated with self-efficacy and energy depletion beliefs, two beliefs associated with failure to regulate negative moods. Data presented in Table 3.3 show that indeed, positive emotion negatively correlated with both self-efficacy beliefs (r = -0.32), and energy depletion beliefs (r = -0.39), and not with any other belief associated to mood control failure. These results indicate that higher levels of positive emotion were associated with feeling less inefficacious and lethargic about regulating a negative mood. Stated alternately, positive emotion is associated with feeling self-efficacious about, and possessing the necessary energy for negative mood regulation.

Self-efficacy beliefs and energy depletion beliefs were also significantly correlated with mood control motivation (r = -.48, and r = -.27, respectively). No other mood control beliefs were related to the motivation factor. Therefore, while positive emotion is not correlated with mood control motivation, it is associated with the beliefs that are correlated with mood control motivation.

Discussion

In this section, the results of the present study will be reviewed and then discussed. Several findings emerged from the data, some of which supported the original hypotheses, while others contravened expectations. The first, unexpected, finding was this sample's level of positive affect was lower than its level of negative affect, which is unusual in the general population. Next, the coping styles variable correlated with demographic categories more than any other variable. Women reported using more emotional discharge coping to deal with stressful situations than men. The problem-solving and broad-minded coping styles were associated more with higher levels of education; and, divorced people reported using broad-minding coping to deal with stress more than did married or single individuals. Third, higher levels of education positively correlated with higher levels of resiliency in this sample. Fourth, positive emotions and resiliency were positively correlated with each other, and both were negatively correlated with failure to regulate negative moods. These correlations supported the existing claim in the literature that positive emotions enable mood regulation in resilient people. Next, positive emotions and resiliency were significantly related to self-efficacy and energy depletion beliefs. Further, these were the only two cognitive self-appraisals associated with being motivated to regulate a negative mood in this study. This meant that participants who strongly believed they were unlikely to affect a mood change, and who believed that they didn't possess enough energy to change their negative mood, were not motivated to try. Although positive emotions were related to these two beliefs, they did not relate to mood control motivation. Seventh, self-esteem positively correlated with both resiliency and positive emotions, and was the only one of these three variables

positively correlated with mood control motivation. Finally, contrary to expectations based on the Broaden and Build Theory, positive emotions were not related to broad-minded thinking or any style of coping with stressful events.

Positive affect in this sample was lower than what is typically found in the general population (Watson, Clark, & Tellegen, 1988). The implications of this are that findings involving positive emotion could be weaker than expected, or significant relationships between positive emotion and other variables may not have emerged in a representative way. For example as seen in Table 3.2, with the exception of the lowest level of education, increases in positive emotion corresponded with increases in levels of education. However, the correlation barely missed significance at $p<.05$. It is possible that these types of results may have changed substantially with a more representative sample. The inverted levels of affect in this sample could be related to people's motivations for agreeing to participate in this study. It is possible that individuals who were experiencing negative emotion were more likely to become involved in a study about positive emotions and negative mood regulation to learn mood regulation strategies and to improve their mood.

Although the emotional discharge style of coping was not central to the hypotheses, a significant association between this emotion-focused coping method and women emerged, while no other gender differences were evident. However, caution must be used when assuming that this relationship would generalize to the normal population due to the disproportionate numbers of men and women in this sample. 71% of participants in this study were female.

Also, regarding coping, a surprising finding in this study was that people with higher levels of education utilized problem solving, and broad-minded thinking coping styles more than individuals with less education. Expectations were that the broad-minded thinking coping style would correlate with positive emotions because they encourage more adaptive ways of handling stress (Folkman, & Lazarus, 1985), and expand the alternatives people will consider when seeking resolutions (Fredrickson, 1998). There is no necessary reason, in theory, to see broad-minded thinking as related to level of education. A possible explanation for this unexpected finding is that the items used to represent Fredrickson's construct of broad-minded thinking possessed greater validity for students than non-students. Individuals who are more familiar with completing questionnaires and tests may be more inclined to choose broad-minded coping as a result of seeing similar questions more frequently. It is likely that such individuals would gain this familiarity through repeated exposures to certain types of knowledge tests during their education. This relationship between broad-minded thinking and education is as likely to be due to the domain's limited external validity, than to differences in broad-mindedness due to educational levels.

Unexpectedly, broad-minded thinking was also positively correlated with marital status, such that divorced individuals used this style more than married and single people respectively. Without further analysis, caution should be used when making inferences from this relationship. However, one possible interpretation could stem from research claiming that individuals repeatedly select coping styles that have been successful for them in the past (Isen, 2003). Perhaps individuals who have resolved negative emotions relating to their divorce have done so by considering alternative explanations for, and by

finding positive meaning in, their stressful experience. However, due to the measure's possible inability to validly tap the construct of broad-minded thinking, stronger conclusions cannot be made.

The last demographic difference noted in this study existed between the variables of education and resiliency. Individuals who possessed higher levels of education were also more resilient. One explanation for this finding is that increases in education result in the accumulation of psychological resources, and also increased social networks. These two benefits of education are also associated with positive emotions, which as cited in Fredrickson's Broaden and Build Theory, contribute to the development of resiliency (Fredrickson, et al., 2003). An alternate explanation for this correlation could be due to influences of family environment affecting increases in resiliency and education simultaneously. Both explanations are equally plausible.

One of the central findings of this study was based on Tugade and Fredrickson (2004) claiming resilient individuals possess higher levels of positive emotion than less resilient people. The first part of hypothesis one found a significant positive correlation between resiliency and positive emotion in this sample and confirmed their claim. The second part of hypothesis one was also designed to corroborate another claim in Tugade and Fredrickson's (2004) study, which stated resilient individuals utilize their positive emotions to regulate negative moods. Not surprisingly, both positive emotions and resiliency inversely correlated with the failure to regulate negative moods. This correlation indicated that people with higher levels of resiliency and positive emotion were better at mood control than their less resilient and positive counterparts. Fredrickson's theory about the undoing effects of positive emotions (Fredrickson, et al.,

2000), has demonstrated that they reverse the harmful physiological effects of negative emotions on the body (e.g. by decreasing levels of arousal), and on the brain by broadening cognitions instead of narrowing them. Although the correlational design of this study prevents the direct claim that resilient people in this sample used positive emotions for mood regulation, the significant relationships between these three variables suggests that such an assertion may well be appropriate. In addition, since the earlier claim (in Tugade & Fredrickson, 2004) regarding positive emotion and mood control was based on physiological measures, this study bolsters the literature by using a different measure of mood regulation. Subjective self-evaluations of mood control ability were obtained to provide a confirmation of Fredrickson's physiological data.

A surprising new finding from this study that extends the literature in this area is that positive emotions and resiliency were both significantly correlated with two cognitive self-appraisals of mood control ability. Although Tugade and Fredrickson (2004) examined cognitive appraisals of threats and challenges in relation to the duration of negative physiological arousal, they did not examine the implications of self-appraisals (beliefs), of mood control ability on resilient people's mood regulation. Resilient people with higher levels of positive emotion were more likely than those with less positive emotion to believe that their attempts to change a negative mood would be successful (self-efficacy belief), and that trying to get themselves out of their bad mood would not deplete all of their energy stores (energy depletion belief). The main theoretical explanation for these relationships stems from associative priming theory which states that positive emotions make positive thoughts more accessible than negative ones (Lazarus, 1994). Applying associative priming theory to this study explains that people

who experienced positive emotions were more likely to access positive beliefs about their efficacy and energy for changing a negative mood. The likely assumption is that resilient individuals had higher self-efficacy and energy beliefs resulting from their higher levels of positive emotions. As a result, they perceived themselves to be more effective at regulating negative moods.

Unexpectedly, self-efficacy and energy depletion beliefs were the only two beliefs in this study that related to mood control motivation. Due to the significant correlations between positive emotions, self-efficacy and energy depletion beliefs and not the other two beliefs contained in the Mood Regulation Questionnaire, it is likely that positive emotion plays an influential role in connecting cognitive appraisals of mood control ability, and mood control motivation. Taking a closer look at the results obtained in relation to acceptance and typicality beliefs, and their lack of face validity with reference to motivation, may provide a possible explanation for their lack of association with mood control motivation. Appraising whether or not a mood is typical of one's usual moods, and giving consideration to the "palatability", or subjective acceptability of a mood both appear further removed from mood regulation motivation than self-efficacy and energy depletion beliefs. The self-appraisals of these latter two beliefs appear to be evaluations of the potential success of goal-directed behaviour. If the self-appraisals favour successful mood regulation ability, it seems that the inherent behavioural aspect of these beliefs would relate to motivation. Also, as positive emotions are already known to motivate people toward their goals (Bindra, 1970; Isen, 2000), it makes intuitive sense that they would correlate only with the mood control beliefs relating to mood control motivation. These findings provide compelling new evidence for the claim that positive

emotions are a significant factor in the beliefs motivating mood control for resilient people.

Another unexpected finding in the data was that positive emotions did not significantly correlate directly with mood control motivation. Positive emotions correlated positively with resiliency, self-esteem, self-efficacy and energy depletion beliefs, and mood control ability. It is puzzling that they correlated strongly with two factors (self-esteem, and cognitive self-appraisals of mood control), that correlated with the motivation to regulate negative moods, yet positive emotions themselves did not associate with mood control motivation. This finding is even more puzzling considering positive emotions' direct association with goal-directed motivation which is established in the literature (Bindra, 1970; Isen, 2000, 2003; Leeper 1970; Wiepkema, 1987; Young, 1961). These findings imply that in this sample, positive emotions provided no motivation for resilient people to regulate a negative mood if favourable cognitive self-appraisals were not also present. If a resilient person experienced positive emotions and simultaneously held favourable self-efficacy and/or energy depletion beliefs, they were then motivated to change the negative mood. The data also indicated that if these two self-appraisals existed without positive emotions present, mood control motivation also occurred. The most plausible theoretical explanation for this again, is associative priming. In other words, if positive emotions primed the specific two mood control beliefs of self-efficacy and energy depletion, the resilient person was motivated to regulate his or her negative mood. Although these beliefs are associated with mood control motivation independently, it is unlikely that a positive self-appraisal of mood control ability could be truly distinct from an association with a corresponding positive emotion, lending further

support to associative priming connecting positive emotions, beliefs, and mood control motivation.

As indicated above, and as expected, self-esteem was directly correlated with mood control motivation, corroborating Heimpel, et al.'s (2002) research regarding the self-esteem differences in negative mood regulation. Although this finding was not a surprise, self-esteem's correlation with mood control beliefs, motivation, resiliency, and positive emotion leaves questions for future research. Understanding the role that positive emotions play in Heimpel, et al.'s study of self-esteem differences in mood regulation would provide new information for both the self-esteem and positive emotion literature.

The last finding is this study was contrary to the hypothesis that positive emotion would be positively correlated with broad-minded thinking. No association existed in this data between positive emotion and this coping style, which is a result in contradiction to the Broaden and Build Theory of Positive Emotions. The implication of this is that people having high levels of positive emotion did not report experiencing broadened thinking, and consequently did not find positive meaning in their negative experience. Subsequently, according to the theory, an upward spiral of positive emotion would not have occurred, which leads to the development of resiliency. As Fredrickson's theory claims that positive emotions result in a broadening of cognition whenever they are present, the likely explanation for this evidence not emerging from the data is that this sample's level of positive emotion was uncharacteristic of the general population.

In summary, this study extends the existing research with the finding that positive emotions prime favourable cognitive self-appraisals of mood control ability associated with resilient people's motivation to regulate their negative moods. Although positive

emotions were not associated with mood control motivation directly, additional research should reexamine this relationship using a causal-comparative, or experimental research design. Claims regarding the relationships between positive emotions, resiliency, and negative mood regulation in positive emotion research were also corroborated by this study.

Limitations and Directions for Future Research

Limitations of this study existed which require the application of caution to the claims made herein, and that the conclusions should not be generalized beyond this sample. Characteristics of this sample indicated that it is very unique, and therefore atypical to the general population. The level of positive and negative emotion was inverse to expectations, along with a disproportionate gender balance prevent the findings from applying to adults in general. Future studies employing randomized sampling procedures would overcome this problem.

Also, these claims are limited due to the inherent limitations of self-report measures. While the reliability and validity of most of the scales used in this study were good, self-report measures tap participants' claims about their behaviour, and do not directly evaluate the behaviour itself. This means that the scales provided a good measure of what the participants claimed, yet room for errors or misrepresentations remain. While self-reports provided a new and complementary way to measure the variables in this study, direct observational measures are fraught with less errors.

The nature of correlational research implies an exploration into the relationships between variables, and does not enable causal claims about these relationships to be made. Utilizing a quasi-experimental, or experimental research design in which the

participants complete a controlled task would eliminate this limitation, and also enable the assertion of stronger conclusions.

The last limitation discussed in this study concerns the Mood Regulation Questionnaire. Upon reflection, the construction of this questionnaire appears to be lacking in the breadth of possible cognitive beliefs associated with mood control ability and motivation. Also, using the category of failure to regulate negative moods to represent mood control ability, was at times confusing. While being able to control a negative mood was the interpretation of mood control ability used in this study, future references of this category should ensure that this term is not confused with mood control potential.

Finally, future research should confirm the connections between positive emotion and cognitive self-appraisals of mood control as this was an exploratory study. Also, new research could examine the causality of their relationship, or use an experimental design to investigate the effect of positive emotion on mood control motivation. Random sampling would also help the results of this study to be generalized to the general population.

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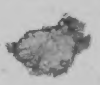

79-82

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